ABSTRACT OF THE DISCLOSURE

Disclosed herein are decoding apparatus, decoding method, data-receiving apparatus and data-receiving method. In a decoding apparatus for carrying out a maximum-likelihood decoding process based on a Viterbi algorithm on a data train completing a convolution-encoding process, the decoding apparatus includes computation means for carrying out a trellis computation for decoding a data train completing the convolution-encoding process. The decoding apparatus further includes control means for controlling the trellis computation so as to be carried out by the computation means with processing timings in processing units each corresponding to a process carried out on n bits of pre-encoding data, in which each of the processing units is parallel processing carried out on computation results obtained for 2^n states with one of the processing timings, which immediately precedes a present one of the processing timings, to find computation results with the present processing timing for the 2^n states.